

STOCKPILE REPORT

to the Congress



JANUARY - JUNE 1964

**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF EMERGENCY PLANNING
WASHINGTON, D. C. 20504**

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OFFICE OF EMERGENCY PLANNING
WASHINGTON 25, D.C.

OFFICE OF THE DIRECTOR

November 16, 1964

Honorable Carl Hayden
President pro tempore of the Senate

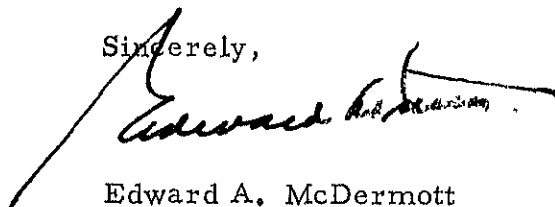
Honorable John W. McCormack
Speaker of the House of Representatives

Sirs:

Pursuant to Section 4 of the Strategic and Critical Materials Stock Piling Act, Public Law 520, 79th Congress, there is presented herewith the semi-annual report to the Congress on the strategic and critical materials stockpiling program for the period January 1 to June 30, 1964.

A statistical supplement to this report was transmitted to you on October 6, 1964.

Sincerely,

A handwritten signature in dark ink, appearing to read "Edward A. McDermott", with a long, sweeping horizontal stroke extending to the right.

Edward A. McDermott
Director

Contents

Summary	Page vii
Introduction.....	1
Supply-Requirements Studies--Conventional War.....	1
Supply-Requirements Studies--Nuclear War	1
Disposal of Excess Materials	3
Summary of Government Inventories of Strategic and Critical Materials	4
Status of Stockpile Objectives	5
Status of Stockpile Objectives, Strategic and Critical Materials on Hand in National Stockpile (Specification Grade), June 30, 1964.....	6
Other Materials in the National Stockpile.....	6
National Stockpile Inventories, Nonspecification Grades of Materials for Which There Are Stockpile Objectives.....	7
National Stockpile Inventories, Materials for Which There Are No Stockpile Objectives	7
National Stockpile Activities.....	8
Procurement and Upgrading.....	8
Disposal Program Activities.....	8
Disposal of Strategic Materials (Table)	10
Notes on Strategic and Critical Materials.....	11
Activities of the General Services Administration.....	14
Activities of the Department of Commerce.....	15
Activities of the Department of Agriculture.....	17
Activities of the Department of the Interior.....	19
Reports Dealing With Stockpile Material Issued by U.S. Geological Survey.....	21
Reports Issued by the Bureau of Mines, Department of the Interior.....	22
Status of Obligational Operations as of June 30, 1964.....	25
Total Obligations and Expenditures of Stockpiling Funds, Cumulative and by Fiscal Period Through June 30, 1964	26
Expenditures of Stockpile Funds, by Type, Cumulative and for Second Half Fiscal Year 1964	27
Defense Mobilization Order 8600.1--General Policies for Strategic and Critical Materials Stock- piling	28

Summary

This report covers the principal activities in stockpile planning and management during the period January 1 through June 30, 1964, under the provisions of Public Law 520 (79th Congress), the Strategic and Critical Materials Stock Piling Act.

Defense Mobilization Order 8600.1 (formerly DMO V-7) was issued by the Director on March 30, 1964. This Order states that strategic stockpile objectives shall be adequate for limited or general, conventional or nuclear war, whichever shows the largest supply-requirements deficit to be met by stockpiling. DMO 8600.1 is included in this Report, page 28.

Supply-requirements studies, based on current military, industrial, and other essential needs in the event of a conventional war emergency, were completed for all stockpile materials and objectives for all materials in the stockpile were established by the Office of Emergency Planning. During the review, 107 determinations on materials in the stockpile were made, of which 79 determinations were made for basic materials and 28 determinations were made for subobjectives of stockpile materials in upgraded forms.

To develop potential nuclear war needs, studies of probable effects of nuclear attack on population, facilities and various resources, and estimates of the survival capabilities of the major segments of the economy were developed in the latter part of 1963 and modified to reflect the capability of each segment to support the other segments. Using these studies and additional OEP guidance, agencies having resource or claimant responsibilities in an emergency initiated development of estimates of their basic requirements for resources. This includes requirements not only for survival but also for rehabilitation and reconstruction of new facilities as needed.

At the end of the report period, the National Stockpile inventory of specification grade materials for which there are stockpile objectives was valued at about \$5.6 billion, based on June 30, 1964, market prices. Comparison of the inventory to the stockpile objectives is shown in Chart 1. The total value of specification-grade materials in all Government inventories was \$7.6 billion.

As of June 30, 1964, cumulative sales commitments for the disposal of surplus materials total approximately \$727.5 million. During the period January 1, 1961, through June 30, 1964, commitments have been made to dispose of excess materials with a total sales value of \$395.5 million. Of this amount, approximately \$248.9 million have been disposed of during the 18-month period ending June 30, 1964. During January-June 1964, sales commitments amounted to \$99.9 million, of which disposals from the National Stockpile totaled \$74.3 million and disposals from the DPA inventory accounted for \$25.6 million.

Introduction

Under Public Law 520, the Strategic and Critical Materials Stock Piling Act, the Director of the Office of Emergency Planning is authorized and directed to determine from time to time what materials are strategic and critical as well as the quality and quantities of such materials which shall be stockpiled.

On March 30, 1964, the Director of the Office of Emergency Planning issued Defense Mobilization Order 8600.1 (formerly Defense Mobilization Order V-7), "General Policies for Strategic and Critical Materials Stockpiling." The new order eliminates the stipulation that no objective shall be less than six months' usage by industry in the United States in periods of active demand. Under the order, strategic stockpile objectives shall be adequate for limited or general, conventional or nuclear war, whichever shows the largest supply-requirements deficit to be met by stockpiling. The full text of Defense Mobilization Order 8600.1 is shown on pages 28 and 29.

SUPPLY-REQUIREMENTS STUDIES-- CONVENTIONAL WAR

As reported in an earlier Stockpile Report to the Congress, the Director of OEP determined, on June 17, 1963, that all new objectives would be established on the basis of a single objective for each material. During the January-June 1964 period, supply-requirements studies were completed for all stockpile materials based on current military, industrial, and other essential needs in the event of a conventional war emergency. Objectives for all materials in the stockpile were established with the advice and assistance of the Interdepartmental Materials Advisory Committee, a group chaired by OEP and composed of representatives from the Departments of State, Defense, the Interior, Agriculture, Commerce, and Labor, and the General Services Administration, the Agency for International Development, and the National Aeronautics and Space Administration. Representatives of the Bureau of the Budget, the Atomic Energy Commission, and the Small Business Administration participate as observers.

In the process of this review, 107 determinations on materials in the stockpile were made. Of this total, 79 determinations were made for basic materials and 28 determinations were made on sub-objectives for upgraded forms of stockpiled materials. There were increases in 35 objectives, decreases in 32 objectives, and 6 objectives remained unchanged. Three new materials--quinine,

thorium, and titanium sponge--were added to the List of Strategic and Critical Materials for Stockpiling and three other materials--hyoscine, silk noils, and raw silk--were removed from the List. In the case of the 28 subobjectives established for the upgraded forms of materials, 13 were increased, 7 decreased, 5 remained unchanged, and 3 new subobjectives--beryllium metal, morphine alkaloids and salts, and crystalline tungsten carbide--were added. The Summary on the following page shows the materials for which stockpile objectives were increased and those which were decreased as a result of the recent supply-requirements studies.

SUPPLY-REQUIREMENTS STUDIES-- NUCLEAR WAR

The first phase of a study of the potential status of the economy following a nuclear attack on the United States was completed by OEP during the previous six-month period. Utilizing studies made by the National Resource Evaluation Center of the probable effects of nuclear attack on population, facilities, and various resources, estimates of the surviving capabilities of the major segments of the economy were developed. These were modified to reflect the capability of each segment to support the other segments. Manpower, raw materials, transportation, and communications and other inputs must be available if surviving facilities are to continue to produce items. Next, the potential needs of Government, consumers, and industry, and for export were developed for the output of finished goods and services from the same broad segments of the economy. These were translated into requirements for the gross outputs from the various sectors through the use of an inter-industry table, which relates the input of needs of one segment to the output of other segments providing the needed goods and services.

The results of the OEP analyses were furnished to all departments and agencies having resource or claimant responsibilities during an emergency. Under guidance issued by OEP, these departments and agencies initiated studies during January-June 1964 to analyze the postattack economy in more detail, but within the limits set by OEP. The study will include not only the resources necessary to the continued operations of surviving facilities, but also those necessary to rehabilitate damaged facilities or to construct new facilities in order to provide for the postattack needs of the Nation. This effort will continue through FY 1965, and perhaps longer, and will provide the basis for determining stockpile objectives for nuclear war to meet all

SUMMARY--CONVENTIONAL WAR STOCKPILE OBJECTIVES

<u>Objectives</u>		<u>Subobjectives</u>	
<u>Increased</u> (35)	<u>Decreased</u> (32)	<u>Increased</u> (13)	
Asbestos, chrysotile	Aluminum	Beryllium copper master alloy	
Bauxite, Jamaica type	Aluminum oxide, fused, crude	Chromium metal, aluminothermic	
Bauxite, refractory grade	Antimony	Chromium metal, electrolytic	
Beryl	Asbestos, amosite	Chromium ferro, high carbon	
Bismuth	Bauxite, surinam type	Chromium ferro, low carbon	
Chromite, chemical	Cadmium	Chromium ferro, silicon	
Chromite, metallurgical	Castor oil	Columbium ferro	
Chromite, refractory	Celestite	Copper, oxygen free	
Cobalt	Columbium	Manganese silico	
Corundum	Copper	Molybdenum ferro	
Fluorspar, acid grade	Cordage fibers, abaca	Tungsten carbide powder	
Fluorspar, metallurgical	Cordage fibers, sisal	Tungsten metal powder, hydrogen reduced	
Graphite, Ceylon	Diamond, industrial: Crushing bort	Vanadium, ferro	
Graphite, Malagasy	Diamond, industrial: Stones		
Graphite, other	Feathers and down		
Iodine	Lead		
Magnesium	Manganese, battery, synthetic dioxide	<u>Decreased</u> (7)	
Manganese, battery, natural	Mica, muscovite, block, stained and better	Columbium metal	
Manganese, chemical, type A	Mica, phlogopite splittings	Columbium carbide powder	
Manganese, chemical, type B	Nickel	Ferro tantalum columbium	
Manganese, metallurgical	Opium	Tantalum carbide powder	
Mercury	Pyrethrum	Sebacic acid	
Mica, film, 1st and 2nd qualities	Rare earths	Tungsten ferro	
Mica, muscovite splittings	Rubber	Tungsten metal powder, carbon reduced	
Molybdenum	Rutile		
Platinum group--Iridium	Silicon carbide, crude	<u>New Subobjectives</u> (3)	
Platinum group--Palladium	Talc	Beryllium metal	
Platinum group--Platinum	Tungsten	Morphine alkaloid and salts	
Quinidine	Vegetable tannin--Chestnut	Crystalline tungsten carbide	
Selenium	Vegetable tannin--Quebracho		
Shellac	Vegetable tannin--Wattle		
Sperm oil	Zinc		
Tantalum			
Tin			
Vanadium			
	<u>Removed From List</u> (3)	<u>Remain Unchanged</u> (5)	
<u>New Materials</u> (3)	Hyoscine	Manganese ferro, high carbon	
Quinine	Silk noils	Manganese ferro, medium and low carbon	
Thorium	Silk, raw	Manganese metal, electrolytic	
Titanium sponge		Molybdic oxide	
		Tantalum metal	
<u>Remain Unchanged</u> (6)			
Diamond dies	35 - Increased	13 - Increased	
Jewel bearings	32 - Decreased	7 - Decreased	
Kyanite-mullite	3 - New materials	3 - New subobjective	
Mica, phlogopite block	6 - Remain unchanged	5 - Remain unchanged	
Quartz crystals	3 - Removed from list		
Sapphire and ruby	79 - Basic materials		
	28 - Subobjectives (see next column)		
	107 - Total determinations	28 - Subobjectives	

essential civilian and military needs from survival to feasible reconstruction programs through the first year.

DISPOSAL OF EXCESS MATERIALS

As indicated in previous Stockpile Reports to the Congress, the Director of OEP, in accordance with recommendations contained in the Executive Stockpile Committee Report, approved by the President on January 30, 1963, established an Interdepartmental Disposal Committee to review all aspects of any proposed disposal program and to make recommendations to the Director. This Committee is chaired by OEP and consists of representatives from the Departments of State, Defense, the Interior, Agriculture, Commerce, and Labor, the General Services Administration, the Agency for International Development, and the Small Business Administration. The Bureau of the Budget, the Atomic Energy Commission, and the Department of

the Treasury participate as observers. A subcommittee, chaired by the General Services Administration, and composed of representatives from the Departments of State, Defense, Commerce, and Interior (or Agriculture when an agricultural commodity is involved), was established to review and determine the scope of the program, including guidelines as to the quantity and rate of sales, and other factors that must be resolved in order to insure that the interests of producers, processors, and consumers, and the international interests of the United States are carefully considered both in the development and carrying out of each disposal plan. Before decisions are made regarding the adoption of a long-range disposal program, appropriate consultations are held with industry and other interested parties to afford them the opportunity to express their views and obtain the benefit of their advice. Progress made with respect to the long-range disposal program together with a detailed analysis of Committee activity is noted under Disposal Program Activities, on page 8.

Summary of Government Inventories of Strategic and Critical Materials

On June 30, 1964, the strategic materials held in all Government inventories amounted to \$8.5 billion at acquisition cost and \$7.8 billion at estimated market value. Of this total, \$5.7 billion at cost was in the National Stockpile, \$1.5 billion in the Defense Production Act inventory, \$1.3 billion in the Supplemental Stockpile, and \$15 million in the Commodity Credit Corporation inventory. Of the total materials in Government inventories, \$5.1 billion at cost and \$4.3 billion at estimated market value are considered to be in excess of stockpile objectives. Over 80 percent of the total excess is made up of 12 materials--aluminum, metallurgical

grade chromite, cobalt, copper, lead, metallurgical grade manganese, molybdenum, nickel, rubber, tin, tungsten, and zinc.

The following table is a summary of the materials carried in each of the Government inventories, including the quantities in excess of stockpile objectives. It shows the acquisition cost and estimated market value of the materials (1) having stockpile objectives and meeting stockpile specifications, (2) having stockpile objectives but not meeting stockpile specifications, and (3) not having stockpile objectives.

Summary of Government Inventories, June 30, 1964

(Stockpile objective: Market value, \$3,509,322,800)

	Total inventory		Excess to stockpile objectives	
	Acquisition cost	Market value ¹	Acquisition cost	Market value ¹
A. Inventories having stockpile objectives:				
(1) Meeting stockpile specifications:				
National Stockpile.....	\$5,553,160,200	\$5,622,790,400	\$2,756,585,400	\$2,613,534,100
Supplemental Stockpile.....	1,321,711,400	1,183,886,900	995,830,000	873,009,200
Defense Production Act.....	1,176,448,900	777,646,300	903,775,600	666,144,600
Commodity Credit Corporation.....	13,682,000	14,955,000	2,448,700	2,555,800
Total.....	8,065,002,500	7,599,278,600	4,658,639,700	4,155,243,700
(2) Not meeting stockpile specifications:				
National Stockpile.....	99,013,500	44,435,000	99,013,500	44,435,000
Supplemental Stockpile.....	8,804,400	2,944,600	8,804,400	2,944,600
Defense Production Act.....	280,553,500	86,916,600	280,553,500	86,916,600
Commodity Credit Corporation.....	798,000	167,000	798,000	167,000
Total.....	389,169,400	134,463,200	389,169,400	134,463,200
B. Inventories not having stockpile objectives:				
National Stockpile.....	25,151,900	21,037,000	25,151,900	21,037,000
Supplemental Stockpile.....	27,673,600	26,480,600	27,673,600	26,480,600
Defense Production Act.....	6,617,300	2,821,200	6,617,300	2,821,200
Commodity Credit Corporation.....	861,300	860,000	861,300	860,000
Total.....	60,304,100	51,198,800	60,304,100	51,198,800
C. Summary:				
National Stockpile.....	5,677,325,600	5,688,262,400	2,880,750,800	2,679,006,100
Supplemental Stockpile.....	1,358,189,400	1,213,312,100	1,032,308,000	902,434,400
Defense Production Act.....	1,463,619,700	867,384,100	1,190,946,400	755,882,400
Commodity Credit Corporation.....	15,341,300	15,982,000	4,108,000	3,582,800
Total Inventory.....	8,514,476,000	7,784,940,600	5,108,113,200	4,340,905,700

¹Market values are computed from prices at which similar materials are being traded currently; or, in the absence of current trading, an estimate of the price which would prevail in commercial markets. The values are generally unadjusted for normal premiums and discounts relating to contained quantities so that market values are understated for materials such as metal grade bauxite to the extent that the inventories are of premium quality. The value does not necessarily reflect the amount that would be realized at time of sale.

Source: General Services Administration.

STATUS OF STOCKPILE OBJECTIVES

As of June 30, 1964, materials of stockpile grade held in the National Stockpile approximately equaled or exceeded the objective for 45 of the 76 materials on the List of Strategic and Critical Materials for Stockpiling. The inclusion of other Government inventories would increase the objectives approximately equaled or exceeded to 61.

The chart below shows the estimated market value for the objectives established and the extent

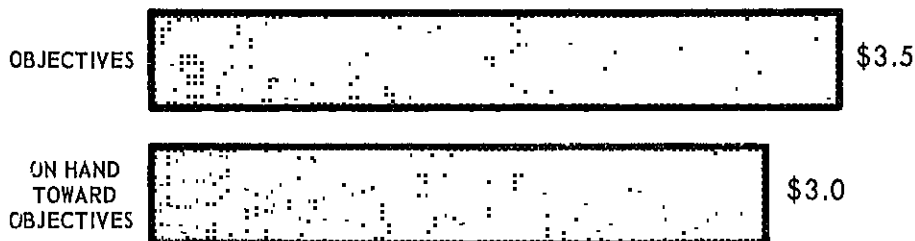
to which materials on hand in and on order for the National Stockpile meet these objectives. The figures do not include other Government inventories (Supplemental Stockpile, DPA materials, or CCC stocks) or the quantities of materials in the stockpile having stockpile objectives and meeting stockpile specifications which are in excess of objectives (\$2.6 billion), materials in the stockpile for which there are no stockpile objectives (\$21.0 million), and materials in the stockpile not meeting stockpile specifications (\$44.0 million).

CHART 1

STATUS OF STOCKPILE OBJECTIVES

AS OF JUNE 30, 1964

(In Billions of Dollars)
MARKET VALUE



The list of strategic and critical materials for stockpiling is shown in the following table. Achievement of stockpile objectives for conventional war is shown in the table only if the materials are actually on hand in the National Stockpile. Footnotes indicate when sufficient quantities of materials are on hand in total Government inventories to complete the stockpile objectives. Also footnoted are those materials for which upgrading subobjectives in effect as of June 30, 1964, had not been achieved.

Stockpile objectives for nuclear war have not been developed as yet. It is now estimated that the studies now under way will not provide an adequate basis for developing stockpile objectives to meet the needs of nuclear war and reconstruction before the end of FY 1965. It is anticipated that some of the objectives for nuclear war may be higher and others may be lower than the objectives established for conventional war.

Status of Stockpile Objectives, Strategic and Critical Materials on Hand in National Stockpile (Specification Grade)

June 30, 1964

Materials	Inventory equals or exceeds objective
Aluminum.....	x
Aluminum oxide, fused, crude.....	x
Antimony.....	x
Asbestos, amosite.....	(1)
Asbestos, chrysotile.....	--
Bauxite, metal grade, Jamaica type.....	(1)
Bauxite, metal grade, Surinam type.....	(1)
Bauxite, refractory grade.....	x
Beryl.....	(1)
Bismuth.....	(1)
Cadmium.....	x
Castor oil.....	x
Celestite.....	(1)
Chromite, chemical grade.....	(1)
Chromite, metallurgical grade.....	x
Chromite, refractory grade.....	--
Cobalt.....	x
Columbium.....	(2) x
Copper.....	(2) x
Cordage fibers, abaca.....	x
Cordage fibers, sisal.....	x
Corundum.....	--
Diamond dies, small.....	--
Diamond, industrial: Crushing bort.....	x
Diamond, industrial: Stones.....	(1)
Feathers and Down, waterfowl.....	x
Fluorspar, acid grade.....	(1)
Fluorspar, metallurgical grade.....	--
Graphite, natural--Ceylon, amorphous lump.....	(1)
Graphite, natural--Malagasy, crystalline	x
Graphite, natural--Other than Ceylon and Malagasy, crystalline.....	x
Iodine.....	--
Jewel Bearings.....	--
Kyanite-Mullite.....	x
Lead.....	x
Magnesium.....	x
Manganese, battery grade, natural ore....	x
Manganese, battery grade, synthetic dioxide.....	x
Manganese, chemical grade, type A ore....	(1)
Manganese, chemical grade, type B ore....	(1)
Manganese, metallurgical grade.....	(1) (2)
Mercury.....	(1)
Mica, muscovite block, stained and better qualities.....	x
Mica, muscovite film, first and second qualities.....	--
Mica, muscovite splittings.....	x
Mica, phlogopite block.....	x
Mica, phlogopite splittings.....	x
Molybdenum.....	(2) x
Nickel.....	x
Opium.....	(2) x
Platinum group metals, iridium.....	--
Platinum group metals, palladium.....	--
Platinum group metals, platinum.....	x
.....	x
.....	x
.....	--

Materials	Inventory equals or exceeds objective
Quinine.....	x
Rare earths.....	x
Rubber, crude, natural.....	x
Rutile.....	--
Sapphire and ruby.....	--
Selenium.....	--
Shellac.....	x
Silicon carbide, crude.....	x
Sperm oil.....	x
Talc, steatite, block and lump.....	x
Tantalum.....	(2)
Thorium.....	(1)
Tin.....	x
Titanium.....	(1)
Tungsten.....	(2) x
Vanadium.....	(2) x
Vegetable tannin extract, chestnut.....	x
Vegetable tannin extract, quebracho.....	x
Vegetable tannin extract, wattle.....	x
Zinc.....	x

xInventory equals or exceeds objective.

--Inventory deficit.

¹Sufficient quantities are on hand in total Government-owned inventories to complete the objectives.

²Although total quantities are equal to the objective, the upgrading program has not been completed.

OTHER MATERIALS IN THE NATIONAL STOCKPILE

In addition to inventories of specification grade materials, the National Stockpile contains non-specification grades of materials for which there are stockpile objectives, materials that have been removed from the stockpile list, and others for which there are no objectives. As of June 30, 1964, quantities on hand of nonspecification grades of materials and materials with no stockpile objectives are indicated in the following tables.

Most of the nonspecification grade materials were acquired by transfer of Government-owned surpluses to the stockpile after World War II. Others were accepted as contract termination inventories. Several were of specification grade when acquired but no longer qualify due to changes in industry practices and other technological advances. Disposal action for many of these items has been authorized by OEP. Inventory changes during the report period were due primarily to disposals, or to reclassification and other adjustments of the inventories.

*National Stockpile Inventories, Nonspecification
Grades of Materials for Which There are Stock-
pile Objectives**

As of June 30, 1964

Material	Unit	Quantity
Aluminum.....	ST	1,787
Bismuth.....	Lb.	36,580
Cadmium.....	Lb.	19,567
Celestite.....	SDT	28,816
Chromite, metallurgical grade...	SDT	190
Columbium.....	Lb.	1,344,374
Diamond dies.....	Pc.	8,371
Fluorspar, acid grade.....	SDT	4,960
Graphite, Malagasy, crystalline	ST	595
Graphite, other than Ceylon and		
Malagasy, crystalline.....	ST	672
Jewel bearings.....	Pc.	14,715,973
Magnesium.....	ST	54
Manganese, metallurgical grade..	SDT	621,703
Mica, muscovite, block, stained		
A/B and better.....	Lb.	347,700
Mica, muscovite film, 1st and		
2d quality.....	Lb.	23,674
Mica, phlogopite block.....	Lb.	205,638
Opium, alkaloid and salts.....	Lb.	2,180
Platinum group metals, platinum	Tr.Oz.	33
Quartz crystals.....	Lb.	707,630
Talc, steatite block and lump...	ST	20
Tantalum.....	Lb.	1,527,258
Tungston.....	Lb.	16,229,613

*Quantities may be shown on this table and also on the disposal table when sales commitments have been made, but the material has not moved out of inventory.

Source: General Services Administration.

*National Stockpile Inventories, Materials for
Which There are No Stockpile Objectives**

As of June 30, 1964

Material	Unit	Quantity
Asbestos, crocidolite, soft....	ST	1,567
Coconut oil.....	Lb.	25,425,706
Diamond dies, other than small	Pc.	355
Diamond tools.....	Pc.	64,178
Hyoscine.....	Oz.	2,100
Mica, muscovite block, stained		
B and lower.....	Lb.	4,612,780
Mica, muscovite film, 3d		
quality.....	Lb.	501,172
Palm oil.....	Lb.	16,999,549
Platinum group metals, rhodium	Tr.Oz.	618
Silk noils.....	Lb.	969,479
Silk raw.....	Lb.	113,515
Silk waste.....	Lb.	20,997
Talc, steatite ground.....	ST	3,901
Zirconium ore, baddeleyite....	SDT	16,533
Zirconium ore, zircon.....	SDT	2,018

*Quantities may be shown on this table and also on the disposal table when sales commitments have been made, but the material has not moved out of inventory.

Source: General Services Administration.

National Stockpile Activities

PROCUREMENT AND UPGRADING

The Strategic Stockpile Procurement Directive for FY 1964 provided for the cash purchase of only one material, jewel bearings. In addition to jewel bearings, the Directive provided for the stockpile acquisition through barter of four commodities—antimony, chrysotile asbestos, refractory grade chromite, and small diamond dies. The Directive also provided for the upgrading of certain stockpile materials to columbium metal, columbium carbide powder, tantalum metal, tantalum carbide powder, and oxygen-free, high conductivity copper through the use of excess materials as payment-in-kind to cover the transportation and processing costs.

During the January-June 1964 period, the General Services Administration completed arrangements with the Bulova Watch Company to extend the stockpile contract covering the production of jewel bearings through June 30, 1964. The modernization and expansion programs for the Government-owned Turtle Mountain Plant in Rolla, North Dakota, for which funds were provided in the Supplemental Appropriation Act of 1963, were continued. The Bulova Watch Company is operating this facility under a lease and stockpile contract with the Government.

A technical review group, consisting of two representatives from GSA and one consultant from the Department of Defense, visited jewel bearing equipment manufacturing plants and production facilities in Switzerland to determine types of jewel bearing production equipment required to modernize the production facility at the Government-owned plant. Initiation of construction of the new building at the Rolla site is anticipated by mid-FY 1965.

A contract was executed during the period for upgrading 6,000 short tons of electrolytic copper cathodes in the stockpile to the same tonnage of oxygen-free, high conductivity copper. Payment for the conversion and all transportation costs involved will be made in electrolytic copper cathodes excess to defense requirements. Deliveries of oxygen-free, high conductivity copper, certified grade, under conversion contracts amounted to 3,007 short tons.

Under two contracts executed in late FY 1963, columbium and tantalum bearing materials designated for upgrading to approximately 156,000 pounds of columbium and tantalum metal and carbide powders were placed in process. Deliveries of columbium and tantalum carbide powders under one of the contracts have been completed with the

return of 12,360 and 15,200 pounds respectively of these materials. From the larger of the two contracts, 26,004 pounds of tantalum and 7,000 pounds of columbium have been tendered for return to the stockpile. Payment for this upgrading project is being made with excess tungsten concentrates and ferronickel from the Defense Production Act inventory. The additional upgrading authorized for FY 1964 on columbium and tantalum has been withheld pending a review of the current inventory position which results from the change in objectives for these materials, and a review of the possible changes in the stockpile specification for capacitor grade tantalum metal powder.

The one remaining supply contract entered into under the Defense Production Act program was terminated by GSA on March 5, 1964. This contract was with the Hanna Nickel Smelting Company and called for the delivery of approximately 17 million pounds of nickel, valued at \$9.8 million, through June 30, 1965. The company paid the Government \$2,175,000 representing the negotiated difference in the contract price and the current market price of the nickel remaining to be delivered.

During the January-June 1964 report period, the Department of Agriculture negotiated 10 barter contracts for four strategic and critical materials valued at \$15.0 million. The materials involved were bauxite, metallurgical chromite, low carbon ferrochrome, and high carbon ferrochrome. By comparison, 28 contracts, valued at \$66.1 million, were negotiated in the July-December 1963 period, and 7 contracts, valued at approximately \$13.9 million, were negotiated in the January-June 1963 period.

DISPOSAL PROGRAM ACTIVITIES

Considerable time and effort have been devoted by members of the Interdepartmental Disposal Committee and the subcommittee in carrying out their functions and responsibilities. A total of 38 meetings have been held by the subcommittee and the full Committee has met 14 times to resolve the problems and reach a determination with respect to each material under consideration. A total of 25 special ad hoc working groups have completed studies and compiled data relating to 25 excess stockpile materials. As a result, the subcommittee completed its investigations and long-range determinations for 15 excess materials, 14 of which were favorably acted upon by the full Committee and forwarded to the Director of OEP with recommendations for action. As of July 10, 1964, 11 of these

had been approved by the Director with instructions to GSA to develop a proposed plan as the basis for industry consultations and subsequent approval by the Director of OEP for submission for Congressional authorization. The Director has two plans under consideration and one plan has been deferred for six months at the suggestion of the Disposal Committee.

Of the 11 disposal plans approved by the Director, three have been authorized by the Congress--cadmium on June 12, 1964, tin on July 2, 1964, and molybdenum on July 14, 1964; four were undergoing agencies' consultation with industry and foreign countries, and four were in the developmental stage.

The Interdepartmental Disposal Committee is now in the process of investigating and formulating disposal proposals for the remaining 10 materials studied by the ad hoc working groups.

During January-June 1964, OEP authorized 28 new disposal programs developed by GSA and concurred in by all interested agencies in accordance with the provisions of Defense Mobilization Order V-7 (revised and amended), and its successor Order 8600.1. Of these 28 actions, 14 involved materials released from the National Stockpile, 4 from the Supplemental Stockpile, and 10 from the Defense Production Act inventory. Two of these actions have since been cancelled--palladium, due to a revision in the stockpile objective and iodine, due to settlement of a damage claim against the carrier.

A summary of disposal actions follows:

January 24--Copper (1,800 short tons). 1,800 short tons of copper cathodes were authorized to be released from the Defense Production Act inventory to be used as payment-in-kind to cover the cost of upgrading stockpile materials to oxygen-free, high conductivity copper.

January 24--Cobalt (650 short tons); January 24--Tungsten Concentrates (130,000 short ton units); February 3--Columbite (200,000 pounds); February 3--Ferronickel (1,000 short tons). These four materials were authorized for release from the Defense Production Act inventory for use as payment-in-kind to cover the cost of upgrading stockpile materials to columbium and tantalum metals and carbide powders.

February 5--Tungsten (550 short tons, net "W"). 550 short tons of tungsten concentrates were authorized from the Defense Production Act inventory for transfer to the Atomic Energy Commission.

February 25--Disposal of the following odd lots of nonspecification grade items or materials held in Government inventories without stockpile objectives was authorized:

NATIONAL STOCKPILE MATERIALS (SCM):	
Asbestos, crocidolite (soft).....	1,567 ST
Copper and copper base alloy.....	165 ST
Cupro-nickel ingots.....	366 ST

NATIONAL STOCKPILE MATERIALS (SCM)--Con.

Diamond dies (large).....	355 Pcs.
Lead castings.....	46,800 Lbs.
Punch mica.....	220,230 Lbs.
Nickel--Miscellaneous fabricated forms.....	66,834 Lbs.
Palladium (cancelled due to revision in objective).....	10,590 Tr. Oz.
Tantalum.....	25,740 Lbs.
Zinc (engraving plates).....	221,087 Lbs.

DEFENSE PRODUCTION ACT INVENTORY MATERIALS:

Mica skimmings.....	14,653 Lbs.
Titanium sponge (fire damaged)...	201,000 Lbs.

SUPPLEMENTAL STOCKPILE MATERIALS:

Chromium metal.....	33,552 Lbs.
Fluorspar, acid grade.....	4,548 SDT
Iodine (cancelled due to settlement of claim against the carrier).....	707 Lbs.
Silicon carbide.....	56 ST

Congressional approval is required before disposal of any materials from the National and Supplemental Stockpile.

March 18--Tin, Pig (98,000 long tons). The authorization covers the remaining excess of tin in the National Stockpile for which Congressional authorization was sought. A long-range plan was developed for the 98,000 long tons of tin plus the unsold portion from the original authorization of 50,000 long tons, which totaled 23,068 long tons as of June 30, 1964.

April 10--Molybdenum (11,000,000 pounds). Authorization was granted for the release of 11,000,000 pounds of molybdenum from the National Stockpile, subject to the approval of Congress, to help alleviate the domestic supply shortage. Congress authorized this release on July 14, 1964 under Public Law 88-377. Government sales are planned for domestic consumption only and offerings are to be determined on the basis of initial sales and current market conditions.

April 13--Cadmium (5,000,000 pounds). A plan to dispose of 5 million pounds of cadmium, to be released from both National and Supplemental Stockpiles, was prepared and cleared by all interested agencies and authorized by OEP. Bills for the disposal of this cadmium were introduced in the Congress and acted upon. On June 12, 1964, the President approved Public Law 88-319 covering the disposal of the 5 million pounds.

May 12--Copper (10,000 short tons). An additional 10,000 short tons of copper were authorized to be released from the Defense Production Act inventory for direct Government use, pursuant to DMO 8600.1.

May 18--Sisal (9,500,000 pounds). The quantity covers the excess sisal in the National Stockpile. The plan was concurred in by all interested agencies and at the end of the year was awaiting approval of the Congress.

June 23—Titanium Sponge, Sodium Reduced (30,-000 pounds). This quantity was authorized to be released from the DPA inventory to cover requirements in support of a Navy prime contract pending availability of material through commercial channels.

At the end of FY 1964, several other long-range disposal plans were in the developmental stage or serving as a basis for appropriate consultations with industry and foreign governments.

As of June 30, 1964, cumulative sales commitments of surplus materials negotiated by GSA totaled \$727.5 million at sales value and covered the disposal of 73 materials, of which \$403.4 million were from the National Stockpile, \$313.5 million from the DPA inventory, and \$10.6 million from the Federal Facilities Corporation (tin). During the January-June 1964 period, GSA entered into disposal contracts with a total sales value of approximately \$99.9 million. Of this amount, disposals from the National Stockpile totaled \$74.3 million and disposals of materials from the Defense Production Act inventory accounted for \$25.6 million. Major disposals during this period were:

rubber, \$23.7 million; tin, \$45.6 million; aluminum, \$13.0 million; copper, \$10.4 million; vegetable tannins, \$1.3 million; castor oil, \$1.0 million; and magnesium, \$1.3 million.

The sales of \$99.9 million, which were made in the January-June 1964 period, bring total sales for FY 1964 to \$167.1 million. This is the best sales year since inception of disposals of strategic and critical materials from the stockpile. The sales in FY 1964 result in no small measure from the emphasis being placed by OEP and GSA on utilization of surplus stockpile materials in Government procurement programs in lieu of cash. Total Government use of stockpile materials in FY 1964 amounted to \$36.8 million which is also a record for this category of disposal. The major Government utilization programs include the AID rubber and tin programs, the DOD rubber programs, and the use of copper by the Mint. These programs have resulted in savings of dollars for the Government, and in improving our balance of payments position.

A list of the materials sold during January-June 1964 is shown on the following table.

Disposal of Strategic Materials

January-June 1964

Material	Unit	Sales commitments	
		Quantity	Sales value
NATIONAL STOCKPILE INVENTORY:			
Castor oil.....	Lb.	7,299,360	\$1,012,552
Cobalt, carbonate.....	Lb.	4,701	128
Coconut oil.....	Lb.	3,078,220	381,707
Feathers and down.....	Lb.	39,900	146,140
Graphite (mixed all grades).....	ST	6	139
Kyanite and Mullite.....	SDT	1,151	20,142
Magnesium ingots.....	ST	2,100	1,298,025
Nickel oxide powder.....	Lb.	370,750	274,355
Palm oil.....	Lb.	5,292,180	385,728
Quinidine.....	Oz.	38,000	27,447
Rubber.....	LT	46,430	23,740,021
Shellac.....	Lb.	180,400	29,634
Talc, steatite, block and lump.....	ST	5	800
Tin.....	LT	14,937	45,637,727
Vegetable tannin extract;			
Chestnut.....	LT	7,550	1,214,655
Quebracho.....	LT	736	123,648
Total National Stockpile.....	74,292,848
DEFENSE PRODUCTION ACT INVENTORY:			
Aluminum.....	ST	27,500	12,980,536
Copper.....	ST	16,698	10,387,836
Cryolite, synthetic.....	ST	4,994	649,175
Lead.....	ST	86	22,360
Mica, skimmings.....	Lb.	14,653	1,172
Nickel.....	Lb.	868,000	685,799
Titanium sponge.....	Lb.	30,000	39,600
Tungsten concentrates.....	LBW	1,100,000	809,754
Total DPA.....	25,676,232
Grand total.....	\$99,869,080

Source: General Services Administration.

Notes on Strategic and Critical Materials

ALUMINUM

Of the 135,000 short tons of aluminum authorized for disposal from the DPA inventory, 27,500 short tons were sold during this period. Total sales to date amount to 78,699 short tons, with proceeds of \$36.1 million. All sales made to date resulted from the unrestricted offerings made by the Government. The plan provided for set-asides for small business; however, no sales have been made.

CADMIUM

A sales announcement was issued June 18, 1964, on the disposal of 5 million pounds of metal from the National and Supplemental Stockpiles authorized under Public Law 88-319. Sales on a shelf item basis will begin in the first quarter of FY 1965 at the rate of approximately 600,000 pounds each quarter. All cadmium being sold is for domestic consumption only with first sales in each quarter to be made to holders of defense-rated orders.

CASTOR OIL

During the report period, 7,299,360 pounds of castor oil from the National Stockpile were sold at a dollar value of \$1,012,552. Since the beginning of the disposal plan, a total of 42,112,320 pounds has been sold with proceeds of \$5,971,026. Remaining to be sold are 113,563,680 pounds of this material.

COCONUT OIL

During the reporting period, 3,078,220 pounds of coconut oil from the National Stockpile were sold for \$381,707. This completed disposal of all coconut oil. Total sold was 265,877,850 pounds, with a return of \$31,638,299.

COPPER

A total of 15,198 short tons of copper was transferred to other Government agencies for their direct use during the period. The annual requirements for the Bureau of the Mint have been increasing as a result of the Bureau's efforts to keep up with the continued coin shortage. In addition, 1,500 short tons, authorized in 1963, were committed as payment-in-kind for the upgrading of copper into OFHC copper, certified grade.

CORDAGE FIBERS

No rotation of cordage fibers was made during the period. Substantially lower objectives were established for abaca and sisal, and disposal plans for these fibers were initiated.

CRYOLITE, SYNTHETIC

During the reporting period, 4,994 short tons of synthetic cryolite in the Defense Production Act inventory were sold for \$649,175. The balance of this material remaining available for sale is 11,551 short tons.

FEATHERS AND DOWN

One commercial sale of down was completed during the reporting period. Under this sale, which was by auction, 39,900 pounds of down were disposed of for \$146,140. The bulk of the 5 million pounds of feathers and down remaining for disposal will be utilized by the Department of Defense for military sleeping bags. As of June 30, 1964, approximately 760,000 pounds of feathers and down, valued at \$2,112,200, have been transferred to the Department of Defense for this purpose.

KYANITE-MULLITE

During the report period, 1,151 short tons of this material were sold from the National Stockpile for \$20,142. This completed the sale of the entire 7,326 short tons of this commodity originally authorized for disposal.

LEAD

The balance of 86 short tons of lead available for transfer to other Government agencies was transferred during the report period. This completed the disposal of lead in the DPA inventory.

On July 14, 1964, the Congress enacted Public Law 88-373 authorizing the disposal of 50,000 tons of excess lead from the National Stockpile, without regard to the normal six-month waiting period. This Congressional action was urged by industry to help increase the available supply of primary lead needed for production requirements and to replenish industry's stocks which have been declining for some time because of the deficiency.

MAGNESIUM

Of the 12,500 short tons of magnesium authorized in March 1962 for disposal from the Na-

tional Stockpile, 2,100 short tons were sold during the period. Offers to sell 700 short tons of the material on a sealed bid invitation will continue to be made approximately every 60 days. To date, 5,785 short tons of this material have been sold with proceeds of \$3,551,256.

MICA SKIMMINGS

During the period, 14,653 pounds of mica skimmings from the Defense Production Act inventory were sold for \$1,172.

MOLYBDENUM

On April 10, 1964, OEP authorized the disposal from the National Stockpile of the excess molybdenum over stockpile needs (11 million pounds), subject to Congressional approval. The Congress authorized this release on July 14, 1964, under Public Law 88-377, without regard to the normal six-month waiting period. Government sales are to be on a competitive basis for domestic consumption only.

NICKEL

During the period, 868,000 pounds of electrolytic nickel were transferred to other Government agencies from the 5 million pounds authorized for this purpose. Transfers to date under this authorization total 1,736,427 pounds. Sales of nickel oxide powder on a shelf item basis to the consuming industry amounted to 370,750 pounds, bringing to 533,258 pounds the total sold to date.

PALM OIL

From January-June 1964, a total of 5,292,180 pounds of palm oil was sold from the National Stockpile for \$385,728. Cumulative sales to date amount to 22,273,441 pounds, with total proceeds of \$1,655,825. A total of 15,426,559 pounds remains for disposal.

QUINIDINE

During the report period, 38,000 ounces of quinidine from the National Stockpile were sold for \$27,447, completing the disposal of the 453,000 ounces authorized for disposal.

RUBBER

From January-June 1964, 46,430 long tons of surplus rubber from the National Stockpile were sold at a contract value of \$23,740,021. During FY 1964, Government sales of surplus rubber amounted to 85,834 long tons, valued at approximately \$45 million. As of June 30, 1964, 313,489 long tons, valued at \$207 million, have been sold since October 1959, when the disposal program began. This leaves a balance of 156,511 long tons of rubber remaining to be sold of the original 470,000 long tons authorized for disposal by the Congress.

The OEP has continued to make special effort toward the increased use of surplus rubber by AID and DOD in their foreign aid programs. During the reporting period, the Defense Department substantially increased the quantities of Government-owned rubber in the purchase of military tires and retreading materials. The utilization of rubber in direct and indirect Government programs during the reporting period accounted for 20,462 long tons. Of this amount, 16,430 long tons were in addition to regular monthly commercial sales of 5,000 long tons, and 4,032 long tons were included as a part of the regular monthly sales to domestic consumers.

SHELLAC

During the report period, 180,400 pounds of shellac were sold from the National Stockpile for \$29,634.

SILK

Raw silk and silk noils were removed from the List of Strategic and Critical Materials for Stockpiling. Development of the disposal plans is currently in progress.

TIN

Of the 14,937 long tons of tin disposed of during the period from the National Stockpile, 13,854 long tons were sold commercially and 1,083 long tons were sold in connection with the AID program. On March 18, 1964, a long-range disposal program covering the remaining excesses of tin in the Stockpile was approved by OEP pending Congressional approval. On March 20, 1964, GSA announced it would dispose of approximately 20,000 long tons of tin during the first annual period in approximately equal quarterly increments. In the first three-month period of the program, GSA sold 5,558 long tons of tin.

TUNGSTEN

Approximately 379 short tons Net "W" of tungsten concentrates were transferred to the Atomic Energy Commission for use in meeting its tungsten requirements during the reporting period.

VEGETABLE TANNINS

During January-June 1964, a total of 7,550 long tons of chestnut tannin extract from the National Stockpile was sold for \$1,214,655 for use on Government contracts and for export. A total of 736 long tons of quebracho from the National Stockpile was sold for \$123,648.

ZINC

On May 13, 1964, OEP requested GSA to prepare an interim short term disposal plan for the release of 75,000 short tons of excess zinc from the National Stockpile, subject to Congressional

approval. This action was requested by the Departments of the Interior and Commerce which urged that the Government help alleviate the tight market situation confronting industry with respect to certain grades of zinc. At the request of industry, the Congress authorized the release of 75,000 short tons of zinc on July 14, 1964 (Public

Law 88-374), without regard to the six-month waiting period. Except for set-asides to be sold to independent alloyers of zinc, GSA plans to restrict Government sales to producers of primary zinc who agree to distribute the material at no profit for domestic consumption only.

Activities of the General Services Administration Relating to Stockpiling of Strategic and Critical Materials

The General Services Administration is charged with the general operating responsibility, under policies set forth by OEP, for stockpile management, including (1) purchasing and making commitments to purchase, transfer, rotating, upgrading, and other processing of metals, minerals, and other materials; (2) expansion of productive capacity through supply contracts, including the installation of Government-owned equipment, such as machine tools, in privately-owned facilities; (3) storage and maintenance of all strategic materials held in Government inventories; and (4) disposal of excess stockpile materials including the development of disposal plans, selling the materials, and arranging for Government use of such materials.

The activities of the General Services Administration particularly in connection with procurement, upgrading, and disposals have been summarized in the earlier sections of this report.

STORAGE AND MAINTENANCE

As of June 30, 1964, Government-owned strategic and critical materials were stored at 158 locations to effect geographical distribution in relation to the needs of consuming areas as follows:

<u>Type of facility</u>	<u>Net change</u>	
	<u>As of</u>	<u>in last</u>
	<u>6/30/64</u>	<u>6 months</u>
Military depots.....	52	0
GSA depots.....	24	0
Other Government-owned sites...	9	0
Industrial plant sites.....	39	0
Leased commercial sites.....	16	0
Commercial warehouses.....	18	-4
Total.....	158	-4

As of June 30, 1964, approximately 52 million tons of strategic materials were stored at these facilities. Approximately 98,000 tons of materials were received into storage during the reporting period, the bulk of which was acquired under the CCC Barter Program.

Continued progress was made in reducing commercial storage of strategic materials. A total of 40,262 tons of rubber, cordage fiber, and cryolite was removed from commercial warehouses, of which 32,994 tons were shipped on disposal sales programs, and 7,268 tons were relocated to Government depots. These actions have reduced annual commercial storage costs by \$301,000, completely evacuated 4 warehouses, and reduced the inventory in 13 others.

Evacuation of the warehouse at the GSA/DMS Buffalo Depot continued. During the reporting period, 34,616 tons of various materials were moved to other GSA depots, and 10,610 tons were shipped out under disposal sales programs. This project is scheduled for completion by December 31, 1964, at which time annual storage costs will be reduced by \$236,000. In addition, the necessity of major roof rehabilitation at a cost of \$1,440,000 will be avoided.

A total of 92 new preservation and maintenance projects was authorized during the period, and 64 previously authorized projects were completed.

Activities of the Department of Commerce Relating to Stockpiling of Strategic and Critical Materials

The Department of Commerce has been delegated a number of responsibilities with regard to the National Stockpile and these, in turn, have been assigned to the Business and Defense Services Administration within the Department. BDSA prepares for the Office of Emergency Planning estimates of essential civilian and war-supporting requirements for strategic materials in a mobilization period, a basic element in determining stockpile objectives. In certain limited cases it also prepares estimates of the mobilization supply of such materials. It also reviews plans for disposal of surplus stockpile materials and it provides OEP or GSA with its evaluation of the market impact of proposed schedules of sales. In addition, it develops recommendations in the matter of purchase specifications and storage procedures and it keeps under surveillance technological developments which might result in changes in requirements. Finally, it prepares special studies for OEP regarding strategic material problems and in general submits to OEP on behalf of the Department recommendations or advice on stockpile policies and programs.

ESTIMATES OF ESSENTIAL CIVILIAN AND WAR-SUPPORTING REQUIREMENTS

The principal procedure for estimating essential civilian and war-supporting requirements involves an analysis of each major end-use item containing significant quantities of the material to be stockpiled. Recent trends in usage are reviewed, prospective technological developments are taken into account, and the essentiality of the item or of the use of the material in the item during mobilization is determined. Finally, the extent to which wartime production of the item would parallel previously determined wartime production levels of the category of which it is a part is evaluated. These factors then become the basis for estimating mobilization requirements for the material for the given end-use item. Similar calculations are applied to other end-use items and the sum of them becomes a total of essential requirements for the material. Extensive industry assistance in specific areas and industry surveys are often required.

During the report period, estimates of mobilization requirements in a conventional war situation for the following materials being stockpiled, or considered for stockpiling, were completed:

Aluminum oxide, fused, crude	Palladium
Bismuth	Platinum
Cobalt	Quinidine
Corundum	Quinine
Diamond bort	Rutile (revision)
Diamond stones	Sapphire and ruby
Hyoscine	Selenium
Iridium	Silicon carbide, crude
Mica, phlogopite block	Tin
Opium	Vanadium

OTHER ACTIVITIES

Quinidine and Hyoscine

BDSA reviewed developments regarding the current use of substitutes for quinidine and hyoscine and the extent to which they would be feasible in a mobilization period. Consultation with experts in industry and Government indicated that such substitutions would be acceptable to a greater degree than previously estimated. Reports reflecting this were submitted to OEP.

Opium

At the request of OEP, BDSA reviewed with industry and Government agencies desirable forms to which opium could be upgraded for ready use in a mobilization period. Considerations included the need for long-term storage, types of containers and the extent to which dosage forms should be available. An analysis and appropriate recommendations were transmitted to OEP.

Sapphire and Ruby

Because of the geographical concentration of synthetic sapphire and ruby production, efforts are being made to encourage the construction of an additional plant in another area. Progress is being made in this respect.

PURCHASE SPECIFICATIONS AND SPECIAL INSTRUCTIONS

Materials stockpiled for war use must be in a form which permits efficient utilization and which provides optimum storage characteristics. Purchase specifications are designed to assure these ends and in their preparation much weight is given to industrial guidance and experience with the materials. Industry specialists and Government experts are consulted in the matter and their views

correlated when such specifications are developed or revised.

Under the general guidance of OEP and in consultation with interested departments and agencies and with the advice of industry, proposed specification revisions during this period involved the following materials:

Beryllium metal	Manganese, ferro,
Chromite, refractory grade	low-medium carbon
Copper	Nickel
Cordage fibers	Tantalum metal

DISPOSAL PROGRAMS

BDSA has been actively participating in the development of long-range disposal programs. As the plans were completed, it submitted recommendations on the disposal of 8 specification grade materials (including some short-range plans) as well as recommendations on 14 small nonspecification grade items. These recommendations were based on an evaluation of the markets and consultation with industry when the materials to be sold were significant.

Specification Grade Materials:

Cadmium	Silk, noils
Cobalt	Silk, raw
Feathers and down	Sisal
Molybdenum	Tin

Nonspecification Grade Materials.

Asbestos, soft crocidolite	Palladium
Bismuth alloys	Rhodium
Diamond dies	Rutile
Fluorspar, acid grade	Silicon carbide
Lead castings	Tantalum
Mica, punch	Titanium
Mica, skinmings	Zinc engraving plates

HIGH HEAT AND SPECIAL PROPERTY MATERIALS

In accordance with the provisions of Defense Mobilization Order V-7 and its successor DMO 8600.1, prospective needs for high temperature and other special property materials will be reviewed for stockpiling if reasonably firm minimum requirements indicate the existence of a supply deficit in the event of an emergency. By agreement with OEP, BDSA conducts this review on an annual basis. During this report period, a report on the annual review of the following items was transmitted to OEP:

Beryllium	Gallium	Rhodium
Boron (elemental)	Germanium	Rubidium
Cerium	Graphite, artificial	Tantalum
Cesium	Hafnium	Tellurium
Chromium	Indium	Titanium
Cobalt	Molybdenum	Tungsten
Columbium	Nickel	Vanadium

Activities of the Department of Agriculture Relating to Stockpiling of Strategic and Critical Materials

EXPANSION OF DOMESTIC SOURCES

The Department of Agriculture is engaged in production and engineering research projects covering a number of strategic and critical agricultural items of foreign origin or substitutes for such items.

Oils

Castorbean research has been continued in cooperation with the California, Mississippi, and Texas Agricultural Experiment Stations. Yield evaluation studies are being carried out. Progress has been made in selecting lines resistant to capsule drop and *Alternaria* capsule mold.

In an effort to solve problems in connection with moisture content of the beans at time of harvest and in storage, investigations have been undertaken and a pilot drier construction project is under way. The experimental harvester designed for damp field and crop conditions is being modified to improve performance.

Cordage Fibers

Kenaf.—Combined analysis of fiber yield, adjusted for stand, covering five kenaf varieties grown in Georgia and Tennessee showed highly significant differences between varieties, locations, and locations by varieties. Highest yields were 1,495 pounds of fiber per acre at Experiment, Georgia.

In a seed yield trial, a late maturing variety, BG 58-10, produced 615 pounds of seed per acre while Everglades 41 and Everglades 71 produced 360 and 310 pounds per acre respectively.

An automatic bundle-tying attachment is planned for the harvester-ribboner for this season. Construction was initiated on a cell wheel arrangement to break the flow of ribbons into proper bundle sizes for tying, utilizing a standard grain or corn binder mechanism. Due to the expected high rate of bundle production, a conveyor will be required for moving the bundles to a trailing wagon.

At the request of the Agency for International Development, an engineer from the USDA Florida project spent about eight weeks in Guatemala advising on the harvesting and processing of kenaf. Of particular interest was the performance of a fiber washer which was shipped to that country after the close of the Florida season. Several bales of fiber grown in this country were also shipped to

Guatemala for manufacture into bags. Excellent progress was reported on the production, processing, and manufacturing phases.

Sansevieria.—The F₁ Hybrid, Florida H-13, continues to be superior to other hybrids in fiber yield. In an age of harvest study conducted with Florida H-13 on Everglades peat soil, it was indicated that the yield increases annually and, therefore, early harvests are not advisable. A new age of harvest experiment, much larger in scope, is being initiated at the Everglades Experiment Station to determine the optimum age for first harvest.

Several manufacturers of twine have expressed interest in the *sansevieria* crop and the harvesting machine. They will view the performance of the equipment and discuss related items with the engineers at the project site.

BARTER ACTIVITIES

During the period January-June 1964, the Commodity Credit Corporation negotiated 40 barter contracts for strategic and other materials valued at approximately \$57.8 million. Of this amount, \$15.0 million represented 10 contracts for strategic materials. The materials involved were bauxite, chromite (metallurgical), ferrochrome (high carbon), and ferrochrome (low carbon). The remaining \$42.8 million represented procurements for other agencies (\$38.7 million for the Department of Defense and \$4.1 million for the Agency for International Development). By comparison, 53 contracts valued at approximately \$111.9 million were negotiated during the July-December 1963 period.

Agricultural commodities exports by contractors in fulfillment of barter contracts with the Commodity Credit Corporation totaled approximately \$70.2 million during the January-June 1964 period. Strategic and other materials, valued at approximately \$1,609.0 million, have been delivered under barter contracts from July 1954 through June 1964, of which materials worth about \$51.2 million were delivered during this report period.

Cumulative transfers to stockpile since July 1954 have totaled approximately \$1,385.7 million (\$151.5 million to the National Stockpile and \$1,234.2 million to the Supplemental Stockpile).

Barter activity on behalf of other U.S. agencies is continuing to benefit the U.S. by using surplus agricultural commodities to pay for petroleum

fuels, jute products, lumber, and such services as aircraft maintenance and barge movements. The Commodity Credit Corporation receives reimbursement for these procurements from the procuring agency, principally AID and DOD.

TRANSFERS FROM STOCKPILE FOR DISPOSAL

In 1962 all National Stockpile extra long staple cotton was transferred to CCC—47,518 bales of domestic cotton and about 123,000 bales (running) of Egyptian and Sudanese cotton.

The domestic cotton was added to CCC's inven-

tory, resulting in a total of 53,740 bales. From August 1, 1962, through December 31, 1963, 6,850 bales were sold under a CCC sales program and 225 additional bales have been sold between January 1 and June 30, 1964, reducing this inventory to 46,665 bales.

The foreign-grown portion of the cotton is being disposed of through an export sales program. Cumulative sales under the program from August 1, 1962, to December 31, 1963, totaled 15,438 bales. Sales during the January 1-June 30, 1964 report period totaled 39,088 bales, reducing the inventory to approximately 66,000 bales.

Activities of the Department of the Interior Relating to Stockpiling of Strategic and Critical Materials

The Department of the Interior has the responsibility for the management, conservation, and adequate development of the Nation's natural resources to meet the requirements of national security and an expanding national economy. The Department assists the Office of Emergency Planning in formulating and carrying out programs for the stockpiling of critical materials. The Department of the Interior conducts research in exploration, mining, beneficiation, and metallurgy and compiles information on production and consumption for use in stockpiling planning. The Department also provides advice and recommendations regarding Purchase Specifications and Special Instructions for stockpiling, storage procedures, and stockpile disposal programs.

The Department is responsible for preparedness programs covering electric power, petroleum and gas, solid fuels and minerals, and conducts resource-requirements studies in order to identify problem areas and develop recommendations and programs for the maintenance of a sufficient mobilization base. The Department also administers programs to encourage the exploration, development, and mining of minerals and metals for emergency purposes.

ESTIMATES OF SUPPLY

During the report period, the Department completed the supply projections for the review of all the metals and minerals in the stockpile, or under consideration for stockpiling, for the OEP review of stockpile objectives for a conventional war emergency. The potential supplies of metals, minerals, and solid fuels which would be available immediately after and during the first year following a nuclear attack are being evaluated for OEP for the development of postattack economic programs and for the development of nuclear war stockpile objectives.

BERYLLIUM

The Department of the Interior, through the Bureau of Mines, continued its comprehensive program on beryllium consisting of widespread studies of domestic beryllium resources and extensive research on beneficiation of beryllium ores, and extraction, purification, casting, and forming of beryllium. Flotation studies on Mount Wheeler, Nevada, ore yielded concentrate ranging

from 12 to 25 percent BeO with recoveries of 75 to 88 percent.

Estimation of significant resources of beryllium in volcanic tuff at Spor Mountain, Utah, and in a stock of quartz monzonite near Gold Hill, Utah, highlights a broad study by the Department of the Interior, through the Geological Survey, of the geology of beryllium and beryllium resources of the country. Resources at Spor Mountain and Gold Hill exceed 15 million short tons of rock of at least one-half percent BeO. The amount of beryllium in this material is about 75 times the present annual consumption of beryllium in the United States.

A newly-discovered beryllium deposit in volcanic rocks in the Sierra Cuchillo, New Mexico, substantiates the belief that additional beryllium deposits will be found in geological settings similar to that at Spor Mountain.

MERCURY

Investigation of nonconventional methods for recovering mercury from its ores was completed by the Bureau of Mines. Determination of optimum conditions and cost estimates showed that the costs of flotation, continuous circuit leaching, and recovery of mercury by precipitation or electro-deposition processes are comparable to direct furnacing of mercury ore.

MOLYBDENUM

Molybdenum deposits of a previously unknown type have been studied by the Geological Survey in sedimentary rocks in the White River Badlands of South Dakota. Insufficient exploration has been done to fully appraise the extent of the deposits. Individual deposits are as much as 100 feet long and 8 feet thick in outcrop. The average grade of material is probably only a few tenths of one percent molybdenum although a small part contains several percent.

TIN

The Bureau of Mines cooperated in the long-term study by the International Tin Council of world tin reserves, production, and consumption.

A meeting of the working group of the Council was held in London to discuss data submitted by various producing and consuming countries and preparation of a report. The study will be helpful in preparing programs for the disposal of surplus stockpiled tin and in guiding the commercial decisions of tin producers and users.

HIGH-TEMPERATURE MATERIALS

The Department of the Interior's semiannual evaluation of the technology and supply-demand situation of the elements that should be considered special-property materials for high temperature and other special applications was revised in April 1964.

Reports Dealing With Stockpile Material Issued by U.S. Geological Survey

January-June 1964

Maps

- MR-272 Geochemical and heavy-mineral reconnaissance of the Harrisburg quadrangle, North Carolina, by Henry Bell, III (copper, zinc, nickel).
MR-39 Oxidized zinc districts in California and Nevada, by A. V. Heyl and C. N. Bozlon.

Professional Papers

- 297-E Geology and mineral deposits of some pegmatites in the southern Black Hills, South Dakota, by J. J. Norton and others (mica, beryllium).
360 Geology and quicksilver deposits of the New Almaden district, Santa Clara County, California, by E. H. Bailey and D. L. Everhart (mercury).
385 Geology and mineral deposits of the Mount Morrison quadrangle, Sierra Nevada, California, by C. D. Rinehart and D. C. Ross (tungsten).
408 Geology of the Cerro Gordo mining district, Inyo County, California, by C. W. Merriam (zinc, lead).
428 Geology and mineral deposits of the Jefferson City quadrangle, Jefferson and Lewis and Clark Counties, Montana, by G. E. Becraft, D. M. Pinckney, and Sam Rosenblum (lead, zinc, copper).
431 Geology and mineral deposits of the Osgood Mountains quadrangle, Humboldt County, Nevada, by P. E. Hotz and Ronald Willden (tungsten, mercury).
468 Crystal chemistry of beryllium, by Malcolm Ross.
475-D Geological Survey Research 1963. Short papers in geology and hydrology. Scientific notes and summaries of investigations.

Bulletins

- 1110-B Geology of the lead-zinc deposits in the Município de Januária, State of Minas Gerais, Brazil, by J. P. Robertson.
1129 Geology of Lost River mine area, Alaska, by C. L. Sainsbury (tin).
1141-M Geology of the Jarbidge quadrangle, Nevada-Idaho, by R. R. Coats (tungsten).
1142-K Geology of the Eureka quadrangle, Utah and Juab Counties, Utah, by H. T. Morris (lead, zinc, copper).
1142-L Geology of the Pintic Junction quadrangle, Tooele, Juab, and Utah Counties, Utah, by H. T. Morris (lead, copper, manganese, zinc).
1167 Talc resources of the United States, by A. H. Chidester, A. E. J. Engel, and L. A. Wright.

Reports Issued by the Department of the Interior Bureau of Mines

January-June 1964

Reports of Investigations

- 6287 Low-Temperature Heat Capacity and High-Temperature Heat Content of Mullite.
- 6319 Titanium Placer Deposits of Idaho.
- 6334 Tungsten Resources of Western Montana. Miscellaneous Deposits.
- 6337 Heats of Combustion and Formation of Carbides of Tungsten and Molybdenum.
- 6341 A System for Electron-Beam Melting. (hafnium)
- 6350 Reconnaissance of Tellurium Resources in Arizona, Colorado, New Mexico, and Utah, Including Selected Data From Other Western States and Mexico.
- 6352 Cadmium Refining by Amalgam Electrolysis.
- 6356 Heat and Free Energy of Formation of Muscovite.
- 6357 Low-Temperature Heat Capacities and Entropies at 298.15° K of Lead Molybdate and Lead Tungstate.
- 6360 Methods for Producing Titanium Lower Chlorides. (rutile)
- 6361 Hydrometallurgical Recovery of Manganese From Manganiferous Slimes and Limestones.
- 6362 Continuous Electrowinning of Cerium Metal From Cerium Oxides.
- 6365 Titanium Placer Resources in Western Montana.
- 6367 Vapor Pressure of Tungsten (VI) Chloride and Hafnium (IV) Iodide by a Metal Diaphragm Technique.
- 6368 Ammoniacal-Ammonium Carbonate Leaching of Manganiferous Materials from the Southern District, Aroostook County, Maine.
- 6370 High-Temperature Heat Contents and Entropies of Andalusite, Kyanite, and Sillimanite.
- 6371 High-Temperature Heat Contents and Entropies of Muscovite and Dehydrated Muscovite.
- 6372 Mine Roof Rock and Roof Bolt Behavior Resulting From Nearby Blasts.
- 6374 Reducing Vanadium Compounds in Bomb Reactors.
- 6375 Some Physical Properties of Ceria Powders Derived From Five Salts.
- 6379 Linear Correlation of Magnetic Susceptibility With the Composition of Minerals.
- 6381 Metathesis of Bastnasite and Solvent Extraction of Cerium.
- 6384 Analysis of High-Purity Columbium by Optical Emission Spectrography.
- 6385 Flotation of Calcareous Scheelite Ores. (tungsten)
- 6386 Laboratory Continuous Flotation of Bertrandite and Phenacite From Mount Wheeler, Nev., Beryllium Ores.
- 6390 Columbium and Tantalum Alloys Suitable for Use at High Temperatures.
- 6392 Polyethoxylated Amines as Flotation Collectors for Slimed Lead Minerals.
- 6396 Naphthenic Acid Solvent Extraction of Rare-Earth Sulfates.
- 6398 The System Magnesia-Magnesium Fluoride-Germania-Lithium Fluoride. 6.94 Percent Lithium Fluoride.
- 6404 Electrostatic Separation of High-Conductivity Minerals.
- 6408 Mineralogical Investigation of Beryllium-Bearing Tuff, Honeycomb Hills, Juab County, Utah.
- 6410 Activities of Copper and Nickel in Liquid Copper-Nickel Alloys.
- 6411 Magnetization Delay in the Separation of Minerals.
- 6412 Infrared Study of the Effect of Fluoride, Sulfate, and Chloride Ions on Adsorption of Oleate on Fluorite and Barite.
- 6414 Analysis of High-Purity Columbium by Optical Emission Spectrography.
- 6415 Heat of Formation of Aluminum Carbide.
- 6417 Recovery of Zinc From Galvanizers' Dross and Zinc-Base Die-Cast Scrap by Filtration.
- 6418 Corrosion Resistance of Diborides in the Pseudobinary System TiB_2 - CrB_2 .

Reports of Investigations—Con

- 6419 Construction and Operation of a Quartz Composite Oscillator.
- 6423 Leaching Copper-Sulfide Minerals With Selected Autotrophic Bacteria.
- 6427 Effects of Substituting Cobalt for Nickel on the Tensile Properties and Hardness of Two Types of Stainless Steel.
- 6428 X-Ray Diffraction and Optical Microscopic Data on Several Important Phases in the Binary Systems $\text{CaO-Al}_2\text{O}_3$, CaOSiO_2 , and $\text{Na}_2\text{O-Al}_2\text{O}_3$.
- 6429 Titanium Resources of Nelson and Amherst Counties, Va. (in Two Parts) 2. Nelsonite.
- 6430 Separation and Determination of Rare Earth Metals in Zirconium-Rare Earth Alloys.
- 6431 Methods for Producing Alumina From Clay. An Evaluation of a Nitric Acid Process.
- 6432 Observations in the Development of Titanium Refining Cells. (rutile)
- 6437 Transfer of Selected Metals in Titanium Electrorefining. (nickel, tin, copper, bismuth, manganese)
- 6438 Estimated Cost of Exploiting Enriched, Hard Manganese Ore From the Maggie Canyon Deposit, Aitillery Mountains Region, Mohave County, Ariz.
- 6442 Metallurgical Studies of Rhodonite Ores, Silverton District Colorado. (in Three Parts). 3. Melting, Quenching, and Acid Leaching of Concentrates and Electrolytic Recovery of Manganese from Solution.
- 6443 Synthesis and Properties of Germanium Fluorophlogopite.
- 6446 Thermodynamic Data for Columbium (Niobium) Carbide.

Information Circulars

- 8200 Industrial Diamond. A Materials Survey.
- 8204 Mining Methods and Costs, Mouat Mine, American Chrome Co., Stillwater County, Mont.
- 8208 Loading and Transportation at Zinc-Lead Mines, The Eagle-Picher Co., Jo Daviess County, Ill., and Lafayette County, Wis.
- 8211 Bureau of Mines Chromium Supplied for Research, July 1953 to July 1961, Including Names of Recipients and Nature of Studies.

STATUS OF OBLIGATIONAL OPERATIONS

Under PL 117 and PL 520 For The National Stockpile

AS OF JUNE 30, 1975

AUTHORITY	APPROPRIATED FUNDS ^{a/}	AUTHORIZATIONS FOR		TOTAL OBLIGATIONAL LIABILITY (CUMULATIVE) ^{d/}
		MAKING ADVANCE CONTRACTS ^{b/}	LIQUIDATING OUTSTANDING ADVANCE CONTRACTS ^{c/}	
Under PL 117 - 76th Congress				
PL 361 - 76th Congress, August 9, 1939	\$ 10,000,000	\$	\$	\$ 10,000,000
PL 442 - 76th Congress, March 25, 1940	12,500,000			22,500,000
PL 667 - 76th Congress, June 26, 1940	<u>47,500,000</u>			<u>70,000,000 ^{e/}</u>
Under PL 520 - 79th Congress				
PL 663 - 79th Congress, August 8, 1946	100,000,000	-	-	100,000,000
PL 771 - 80th Congress, July 30, 1947	100,000,000	75,000,000	-	275,000,000
PL 785 - 80th Congress, June 25, 1948	225,000,000	300,000,000	-	800,000,000
PL 785 - 80th Congress, June 25, 1948	75,000,000	-	75,000,000	800,000,000
PL 119 - 81st Congress, June 23, 1949	40,000,000	270,000,000	-	1,110,000,000
PL 150 - 81st Congress, June 30, 1949	275,000,000	250,000,000	-	1,635,000,000
PL 150 - 81st Congress, June 30, 1949	250,000,000	-	-	1,635,000,000
PL 434 - 81st Congress, October 29, 1949	-	-	250,000,000	1,635,000,000
PL 759 - 81st Congress, September 6, 1950	365,000,000	-	-	2,025,000,000
PL 759 - 81st Congress, September 6, 1950	240,000,000	125,000,000	-	2,025,000,000
PL 863 - 81st Congress, September 27, 1950	573,232,449 ^{g/}	-	-	2,598,232,449
PL 911 - 81st Congress, January 6, 1951	1,824,911,000	-	-	4,423,143,449
PL 353 - 82nd Congress, November 1, 1951	590,216,500	-	-	5,023,359,949
PL 253 - 82nd Congress, November 1, 1951	200,000,000	-	200,000,000	5,023,359,949
PL 455 - 82nd Congress, July 25, 1952	203,979,000	-	70,000,000	5,157,338,949
PL 176 - 83rd Congress, July 31, 1953	-	-	30,000,000	5,127,338,949
PL 428 - 83rd Congress, June 24, 1954	-	-	27,600,000	5,099,738,949
PL 663 - 83rd Congress, August 26, 1954	379,952,000 ^{h/}	-	-	5,479,690,949
PL 112 - 84th Congress, June 30, 1955	321,721,000 ^{i/}	-	-	5,801,411,949
PL 112 - 84th Congress, June 30, 1955	27,400,000	-	27,400,000	5,801,411,949
PL 844 - 85th Congress, August 28, 1958	3,000,000	-	-	5,804,411,949
Reauthorized by PL 255 - 86th Congress, September 14, 1959	-58,370,923 ^{j/}	-	-	5,746,041,026
PL 626 - 86th Congress, July 12, 1960	22,237,000 ^{k/}	-	-	5,768,278,026
PL 141 - 87th Congress, August 17, 1961	16,682,510 ^{l/}	-	-	5,784,960,536
PL 761 - 87th Congress, October 3, 1962	8,729,887 ^{m/}	-	-	5,793,690,423
PL 215 - 88th Congress, December 19, 1963	23,925,000	-	-	5,817,615,423 ^{n/}
Total PL 117 and 520	<u>\$5,887,615,423</u>	<u>\$1,020,000,000</u>	<u>\$4,020,000,000</u>	<u>\$4,887,615,423</u>

SOURCE
GENERAL SERVICES ADMINISTRATION

^{a/} Congressional appropriations of funds for stockpiling purposes.

^{b/} Congressional authorizations of contracting authority for stockpiling purposes.

^{c/} Cumulative total of appropriations to liquidate outstanding obligations incurred under previously granted advance contract authority.

^{d/} Cumulative total of appropriated funds and advance contract authorization, less authorization to liquidate outstanding advance contract.

^{e/} Includes \$6,645,792 received from sale of stockpile materials for wartime consumption. Receipts were returned to Treasury, February 1948.

^{f/} Cancellation of previously authorized authority for stockpiling purposes.

^{g/} Includes \$25,000,000 transferred to Transportation and Public Utilities Service, GSA.

^{h/} Includes \$430,000 transferred to Transportation and Public Utilities Service, GSA.

^{i/} As of June 30, 1959 this amount included cash of \$21,350,792 and receivables of \$6,020,121.

^{j/} Includes \$7,761,000 transferred to other GSA funds for classified and wage board salary increases during 1961.

^{k/} Includes \$21,700 transferred to other GSA funds for classified and wage board salary increases during 1961.

^{l/} Appropriation of \$10,000,000 of which \$21,700 transferred to other GSA funds for classified and wage board salary increases during 1961.

^{m/} Appropriation of \$10,051,000 less transfers to General Fund Receipts of \$8,345,113.

^{n/} Excludes receipts from rotational sale.

TOTAL OBLIGATIONS AND EXPENDITURES OF STOCKPILING FUNDS

Under PL 111 and PL 520 for THE NATIONAL STOCKPILE

CUMULATIVE AND BY FISCAL PERIOD THROUGH JUNE 30, 1964

Fiscal Period	OBLIGATIONS INCURRED ^{A/}		EXPENDITURES ^{B/}	
	Net Change By Fiscal Period	Cumulative As of End of Period	By Fiscal Period	Cumulative As of End of Period
Prior to Fiscal Year 1948	\$ 123,871,685	\$ 123,871,685	\$ 66,330,731	\$ 66,330,731
Fiscal Year 1948	252,901,411	376,773,096	82,907,575	149,238,306
Fiscal Year 1949	459,766,881	836,539,977	304,486,177	453,724,483
Fiscal Year 1950	680,427,821	1,516,967,798	440,834,970	894,559,453
Fiscal Year 1951	2,075,317,099	3,592,284,897	655,537,199	1,550,096,652
Fiscal Year 1952	948,117,547	4,540,402,444	844,683,459	2,394,780,111
Fiscal Year 1953	252,375,163	4,792,777,607	906,158,850	3,300,938,961
Fiscal Year 1954	116,586,681	4,909,364,288	644,760,321	3,945,699,282
Fiscal Year 1955	321,799,833	5,231,164,121	801,310,094	4,747,009,376
Fiscal Year 1956 ^{C/}	251,692,667	5,482,856,788	382,011,786 ^{C/}	5,129,021,162 ^{C/}
Fiscal Year 1957	190,000,109	5,672,856,897	354,576,558	5,483,597,720
Fiscal Year 1958	54,473,250	5,727,330,147	173,753,997	5,657,351,717
Fiscal Year 1959	38,710,879	5,766,041,026	65,260,098	5,722,611,815
Fiscal Year 1960	19,859,290	5,785,900,316	49,227,142	5,771,838,957
Fiscal Year 1961	29,082,919	5,814,983,235	33,325,431	5,805,164,388
Fiscal Year 1962	31,179,407	5,846,162,642	33,695,431	5,838,859,819
Fiscal Year 1963	17,414,900	5,863,577,542	22,104,176	5,860,963,995
Fiscal Year 1964	15,489,597	5,879,067,139	16,091,067	5,877,055,062

^{A/} Figures are the sum of obligations incurred under PL 520, 79th Congress and PL 117, 76th Congress.
Final obligations under PL 117, 76th Congress were incurred in Fiscal Year 1949.

^{B/} Figures are the sum of expenditures under PL 520, 79th Congress and PL 117, 76th Congress.
Final expenditures under PL 117, 76th Congress were made in Fiscal Year 1951.

^{C/} 1956 and subsequent fiscal periods and cumulative expenditures are reported on an accrual basis.

SOURCE: GENERAL SERVICES ADMINISTRATION

EXPENDITURES OF STOCKPILE FUNDS, BY TYPE

(for the National Stockpile)

Cumulative and for Second Half Fiscal Year 1964

Type of Expenditure	Cumulative Through December 31, 1963	Six Months Ended June 30, 1964	Cumulative Through June 30, 1964
Expenditures			
Gross Total	\$6,411,620,748	\$8,304,339	\$6,419,925,087
Less: Adjustment for Receipts from Rotation Sales and Reimbursements	542,686,188	183,837	542,870,025
Net Total	5,868,934,560	8,120,502	5,877,055,062
Material Acquisition Costs, Total	5,436,451,726	446,465	5,436,898,191
Stockpile Maintenance Costs, Total	375,260,061	5,833,594	381,093,655
Facility Construction	43,772,457	-	43,772,457
Storage and Handling Costs	228,723,139	5,845,115	234,568,254
Net Rotation Costs	102,764,465	-11,521	102,752,944
Administrative Costs	50,223,625	1,227,104	51,450,729
Operations, Machine Tool Program	6,999,148	613,339	7,612,487

a/ Cumulative figures are the total of expenditures under PL 117, 76th Congress and PL 520, 79th Congress. Expenditures under PL 117 totaled \$70,000,000 of which \$55,625,237 was for materials acquisition costs and \$14,374,763 was for other costs. Final expenditures under PL 117 were made in FY 1951.

SOURCE: GENERAL SERVICES ADMINISTRATION

DMO 8600.1—GENERAL POLICIES FOR STRATEGIC AND CRITICAL MATERIALS STOCKPILING

1. *Purpose.* This order sets forth policies for the administration of strategic and critical materials stockpiling.

2. *Cancellation.* This order supersedes Defense Mobilization Order V-4 (19 F.R. 7458, November 19, 1954), Defense Mobilization Order I-17 (20 F.R. 3437, May 17, 1955), Defense Mobilization Order V-7 (24 F.R. 10308, Dec. 19, 1959) and Amendment 1 thereof (27 F.R. 4169, May 2, 1962).

3. *Policies.* By virtue of the authority vested in me by Executive Order 11051, the following policies are promulgated to govern the administration of strategic and critical materials stockpiling:

a. *General.* The strategic stockpile shall be so administered as to assure the availability of strategic and critical materials in a war emergency.

b. *Period covered by stockpiling.* All strategic stockpile objectives for conventional war shall be limited to meeting estimated shortages of materials for a three-year emergency period. Strategic stockpile objectives for nuclear war involving attack on the United States, shall be designed to meet estimated shortages of materials during (a) actual hostilities and (b) the reconstruction of the national economy to a point where it is adequate for national defense.

c. *Stockpile objectives.* Strategic stockpile objectives shall be adequate for limited or general, conventional or nuclear war, whichever shows the largest supply-requirements deficit to be met by stockpiling.

d. *Emergency requirements.* The requirements estimates for limited or general, conventional or nuclear war shall, where appropriate, reflect specific requirements to the extent available. It shall be assumed that the total requirements will approximate the capacity of industry to consume, taking into account necessary wartime limitation, conservation and substitution measures. Requirements shall be discounted for wartime losses of consuming capacity to the extent that such losses can be reliably estimated. Departments and agencies having responsibilities with regard to requirements data on stockpile materials shall review such data and provide the Director of the Office of Emergency Planning annually with information as to all significant changes.

e. *Emergency supplies.* Estimates of supply for the mobilization period shall be based on readily available capacity

and known resources. No reliance shall be placed on foreign sources of supply beyond North America and comparably accessible sources during an emergency. The share of an accessible foreign source of supply available to the United States shall be discounted to reflect the risks involved internally in the supply country and the risks of concentration of the sources. Domestic supplies shall be discounted to reflect vulnerability to total or partial destruction by overt to covert action. In cases of excessive concentration particularly, provision shall be made for supplies during the estimated time required to restore capacity and operations. Departments and agencies having the responsibilities with regard to supply data on stockpile materials shall review such data and provide the Director of the Office of Emergency Planning annually with information as to all significant changes.

f. *Provision for special-property materials.* Arrangements shall be made for the regular availability of objective scientific advice to assist in the evaluation of prospective needs for high-temperature and other special-property materials. Such materials shall be stockpiled if reasonably firm minimum requirements indicate the existence of a supply deficit in the event of an emergency.

g. *Supply-requirements reviews.* The supply-requirements balance for any material that is now or may become important to defense shall be kept under continuing surveillance. Supply-requirements data submitted pursuant to paragraphs d. and e. above shall be examined upon receipt. A full-scale review may be undertaken at any time that a change is believed to be taking place that would have a significant bearing on the wartime readiness position. Priority of review shall be given to materials under procurement.

h. *Procurement policy.* Unfilled objectives shall be attained expeditiously by cash procurement, barter, surplus transfers or otherwise as the Director shall deem appropriate. Long term contracts shall contain termination clauses whenever possible. Although various measures that are feasible shall be considered for meeting a materials deficit in an emergency, measures other than stockpiling shall be undertaken only after it is clear that stockpiling is not the best solution.

i. *Maintenance of the mobilization base.* A portion of the mobilization base comprises existing or projected productive capacity the output of which will be relied on to fill defense requirements.

All inventories of Government-owned materials held for long-term storage are a part of the mobilization base and should be weighed in determining the need for a relevant portion of the productive segment of the mobilization base. The maintenance of any portion of the productive segment of the mobilization base through stockpile procurement shall be undertaken only within unfilled stockpile objectives.

j. *Upgrading to ready usability.* In order to satisfy the initial surge of abnormal demands following intensive mobilization either in a general or limited, conventional or nuclear war, subobjectives of stockpile materials shall be established for upgraded forms of such materials for immediate use in such circumstances. For this purpose a minimum readiness inventory shall be provided near centers of consumption. To the greatest extent practicable the amounts of such inventories should be based on the largest of the calculated mobilization requirements for any of the foregoing types of war during the first six months of the first year of mobilization. Materials in Government inventories may be upgraded for such stockpiling purposes only when the net cost of such processing including transportation and handling is less than the cost of new material. Materials should be upgraded to forms which will permit the greatest use-flexibility. Surplus materials may be used to pay for the upgrading of the same or other materials required to meet objectives providing that the use of excess materials for this purpose is in conformance with disposal criteria.

k. *Beneficiation of subspecification materials.* Subspecification-grade materials in Government inventories may be beneficiated within the limits of the objectives when this can be accomplished at less cost than buying new material.

l. *Cancellation of commitments.* Commitments for deliveries to national stockpile and Defense Production Act inventories beyond the objectives shall be cancelled or reduced when settlements can be arranged which would be mutually satisfactory to the supplier and the Gov-

ernment and which would not be disruptive to the economy or to projects essential to the national security. Such settlements may take into account anticipated profits and cover adjustments for above-market premiums. The settlement of commitments may be made through the payment of cash or through the use of surplus materials. Responsibility with respect to the settlement of commitments in the light of over-all in-

terests of the Government rests with the Administrator of General Services who shall keep other agencies advised and consult with them to the extent appropriate.

m. *Retention of other inventories.* Within the limits of unfilled stockpile objectives, stockpile-grade materials in the Defense Production Act and the Supplemental Stockpile Inventories shall be retained for national stockpile purposes.

n. *Disposals.* The Director of the Office of Emergency Planning will authorize the disposal of excess materials whenever possible under the following conditions: (a) avoidance of serious disruption of the usual markets of producers, processors and consumers, (b) avoidance of adverse effects on the international interests of the United States, (c) due regard to the protection of the United States against avoidable loss, (d) avoidance of adverse effects upon domestic employment and labor disputes, and (e) except when materials are channeled to other agencies for their direct use, consultation with the Departments of the Interior, Commerce, State, Agriculture, Defense, Labor, and other governmental agencies concerned, and consultation as appropriate with the industries concerned. If within 30 days after such consultation either the Department of State or the Department of the Interior indicates an objection to the proposed plan which, after discussion, the Director does not support, he shall so notify the President and present the

issue to him for decision. To the extent possible disposals should be made in accordance with long-run disposal plans which have been worked out in consultation with the interested departments and which take into account probable trends in supply and price both at home and abroad.

In making such disposals preference shall be given to materials in the Defense Production Act inventories.

Disposals of materials that deteriorate, that are likely to become obsolete, that do not meet quality standards, or that do not have stockpile objectives, are to be expedited.

The Administrator of General Services shall be responsible for conducting negotiations for the sale of materials and will consult with and advise the agencies concerned.

o. *Public notice on disposals.* Generally the sale of excess materials acquired under the Defense Production Act will be made only after appropriate public announcement of the quantity or quantities to be offered in a specified period of time.

p. *Direct Government use.* Government agencies which directly use strategic and critical materials shall fulfill their requirements through the use of materials in Government inventories that are excess to the needs thereof whenever such action is found to be consistent with over-all disposal policies and with the best interests of the Government. Except where appropriate in the

judgment of the Administrator of General Services, the requirements of subsection n, above, with respect to approval by Government departments or agencies and consultation with industries, shall not be applicable to transfers of strategic and critical materials for direct Government use.

4. *Delegation of authority—*a. *Preparation of reports.* The Administrator of General Services shall prepare on behalf of the Director of the Office of Emergency Planning and forward to him for transmittal to the Congress the reports required by section 304 of the Defense Production Act of 1950, as amended, and section 4 of the Strategic and Critical Materials Stock Piling Act.

b. *Supplemental Stockpile.* The Administrator of General Services shall on behalf of the Director of the Office of Emergency Planning and in accordance with programs certified by him, purchase or contract for the purchase of materials for the Supplemental Stockpile under Title I of the Agricultural Trade Development and Assistance Act of 1954, as amended.

5. *Effective date.* This order shall take effect on the date hereof.

Dated: March 30, 1964.

EDWARD A. McDERMOTT,
Director,

Office of Emergency Planning.

[F.R. Doc. 64-3608; Filed, Apr. 13, 1964;
8:40 a.m.]